ADVANCES IN MATHEMATICS 49, 106–107 (1983)

Book Reviews

V. L. ARNOLD, *Mathematical Methods of Classical Mechanics*, Springer–Verlag, New York, 1978, 462 pp.

Classical mechanics is again proving to be the master (in the Hegelian sense) to the slave that is quantum mechanics. Reading this book is a trip, unfortunately uninterrupted by Whittakerian exercises.

K. S. BROWN, *Cohomology of Groups*, Springer–Verlag, New York, 1982, 306 pp.

The subject still remains rather mysterious to the public at large (why groups? why all this work? wherefore the example?) but the author does his best to make it, if not a subject of everyday conversation, at least a plausible subject for study, even self-study. Why don't you take it with you on your next vacation?

T. HIDA, *Brownian Motion*, Springer–Verlag, New York, 1980, 325 pp.

The need for an up-to-date treatment of Brownian motion, complete in all its aspects, has finally been met. We particularly enjoyed the thorough treatment of the connections with the infinite-dimensional classical groups. The reverberations in the group-representations camp will be felt a long time hence.

Automorphic Forms, Representations and L-functions, American Mathematical Society, Providence, R.I., 1979, 2 vols., 322 pp. and 382 pp.

Rarely does one find a collection of papers that hangs together as well as this one. The subject is the classiest of mainstream mathematics, still sufficiently at the peak of its power to attract the geniuses of the day. We would love to recommend these volumes as required reading, were it not for the fact that some three-years' worth of intensive study must precede the enjoyment of this marvelous text.

O. T. O'MEARA, *Symplectic Groups*, American Mathematical Society, Providence, R.I., 1978, 122 pp.

We already knew that O'Meara is one of the rare mathematicians endowed with the gift of making things clear. But further confirmation will do no harm, especially if it opens up the pleasure of symplectic geometry to the wide audience that will be enriched by the reading.

W. M. MASSEY, *Singular Homology Theory*, Springer–Verlag, New York, 1980, 265 pp.

At long last, a textbook in topology that can be read instead of just deciphered. Now even an ordinary mathematician can crack it. Does this presage an end of the evil spell that kept topologists from writing up their ineffable discoveries?

P. A. GRIFFITHS, *Exterior Differential Systems and the Calculus of Variations*, Birkhaüser, Basel, 1983, 335 pp.

The machinery of the calculus of variations used to give a feeling of imperfection, of incompleteness. No longer. We predict that this book will be rewritten many times and in many languages.

C. REID, *Neyman from Life*, Springer, 1983, 298 pp.

The indefatigable Mrs. Reid has produced another thorough, definitive biography of a

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